

Appl. No. 09/813,916
Reply to Office Action of December 28, 2004

Attorney Docket: P66515US0

REMARKS

In this Amendment, Applicant has amended Claim 1 to overcome the rejections and further specify the embodiments of the present invention. It is respectfully submitted that no new matter has been introduced by the amended claims. All claims are now present for examination and favorable reconsideration is respectfully requested in view of the preceding amendments and the following comments.

REJECTIONS UNDER 35 U.S.C. § 102:

Claims 1, 3, 5 and 6 have been rejected under 35 U.S.C. § 102 (e) as allegedly being anticipated by Dixon et al. (US 6,275,704), hereinafter Dixon.

Applicant traverses the rejection and respectfully submits that the present-claimed invention is not anticipated by the cited reference. More specifically, Claim 1 has been amended to further specify that "each base station uses plural frequencies in each cell, uses the same combination of the frequencies as adjacent base stations, and is divided into three or more sectors, each of which is provided with an antenna different in directivity on a horizontal plane, the antennas are placed in a manner so that the antenna beams cover all the directions on the horizontal plane as a whole, and all the antennas using the same frequency and the same polarized wave are arranged to face in about the same direction in all cells." Claims 3, 5 and 6 also include this feature due to their dependency on Claim 1.

The embodiments of the present invention as defined in addend claims are different from the disclosure in Dixon. Dixon shows a radio system that divides a certain region into two or more cells and installs a base station at about the center of each cell to carry out communication between the base station and many fixed terminal stations in the cell in which the base station is installed. According to Dixon, each base station uses a frequency group, which inherently comprises two or more frequencies (see descriptions

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in col. 6, lines 64 – 65) and is divided into two or more sectors, each of which is provided with an antenna different in directivity on a horizontal plane. In Dixon, the antennas are placed in such a manner that the antenna beams cover all the directions on the horizontal plane as a whole, and all the antennas using the same frequency and the same polarized wave are in a manner to face in about the same direction.

However, Dixon describes that “no cell 403 is assigned the same frequency as any of its adjacent cells 403” in col. 7, lines 1-2. In addition, Dixon discloses a radio system where “no cell 703 utilizes the same frequency as any of its adjacent cells 703” in col. 8, lines 39 – 40.

Furthermore, as shown in Fig. 8 and described in col. 8 line 65 through col. 9 line 2, “seven frequencies (or frequency groups) denoted by letters A through G are reused in a repeating pattern such that no cell 803 utilizes the same frequency as any of its two nearest neighboring cells 803.”

Therefore, Dixon discloses a radio system which has a base station in every cell, wherein each base station uses a frequency or a frequency group, but any of base station does not use the same frequency or frequency group (combination of frequencies) as adjacent base stations.

On the contrary, it is respectfully submitted that the embodiments of present invention as claimed provide a radio system that divides a certain region into two or more cells and installs a base station at about the center of each cell to carry out communication between the base station and many fixed terminal stations in the cell in which the base station is installed, wherein each base station uses plural frequencies in each cell, uses the same combination of the frequencies as adjacent base stations, and is divided into three or more sectors, each of which is provided with an antenna different in directivity on a horizontal plane, the antennas are placed in a manner so that the antenna beams cover all the directions on the horizontal plane as a whole, and all the antennas using the same frequency and the same polarized wave are arranged to face in about the

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same direction in all cells.

More specifically, as shown in Fig. 1 and Fig. 5A, the base stations B1-B4 are adjacent to each other, and each of them uses the same combination of frequencies F1, F2, F3, F4. In addition, all the antennas using F1V face in about the same direction in every cell, and all the antennas using F2V face in another same direction in every cell, and those using F3V or F4V face in another same direction respectively. Therefore, the radio system of the present invention makes it possible to prevent the occurrence of interference between base stations, and between subscriber stations. Furthermore, the radio system of the present invention makes it possible to save the utilization of frequency resources.

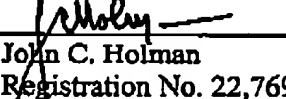
Therefore, the embodiments of the present invention as claimed are different from Dixon, and they have components and effects which are not disclosed nor taught in Dixon. In summary, the newly presented claims are not anticipated by Dixon and the rejection under 35 U.S.C. § 102 (e) has been overcome. Accordingly, withdrawal of the rejections under 35 U.S.C. § 102 (e) is respectfully requested.

Having overcome all outstanding grounds of rejection, the application is now in condition for allowance, and prompt action toward that end is respectfully solicited.

Respectfully submitted,

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